

EE/CprE/SE 492 WEEKLY REPORT

3/13/2020-4/2/2020

Group number: 21

Project title: New Simulation Methods to More Effectively Integrate High Levels of Renewable Energy Resources

Client &/Advisor: MISO and James McCalley

Team Members/Role: Jared Rickard - ; Collins Ntwali - ; Nidhi Rawell - ; Jeremy Nash - ;

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o Weekly Summary – Began simulations and analysis of results. Created GUI for script to be used by client.

o Past week accomplishments

- Jared Rickard: Mostly finished GUI for script. Added metadata output to code. Added output format option.
- Collins Ntwali: Analyzed results and compared the calculated LMPs and Production Costs with the unapproximated results given to us by the MISO team
- Nidhi Rawell: Ran code for K-Medoids and looked at examples for DBSCAN clustering.
- Jeremy Nash: Began developing code to analyze Plexos output csv files. The analysis includes error bar and whisker plots as well as total error for each approximation.

o Pending issues

- Jared Rickard: Start finding likely candidates for three week simulations.
- Collins Ntwali: Run more simulations and document out project.
- Nidhi Rawell: Work on Broader perspective document.
- Jeremy Nash: Finish the code and modify to include multiple week approximations

o Individual contributions

Name	Individual Contributions	Hours This Week	Hours Cumulative
Jared Rickard	Code, GUI	12	129
Collins Ntwali	Data analysis	10	114
Nidhi Rawell	Code, Documentation	10	100
Jeremy Nash	Code, Research, ran Plexos 27 times	15	124

o Comments and extended discussion –

o Plans for the upcoming week

- Jared Rickard: Fix any issues the client finds with the code. Try to create criteria for selecting three week simulations. Revisit timeline.
- Collins Ntwali: Look back on all the write-ups done for the group and try to organize them with the focus laid out in background. Some of it might not fit but try to be as encompassing as possible. Try to be verbose about what you are explaining as explaining it.
- Nidhi Rawell: Finish tasks assigned for the project.
- Jeremy Nash: Finish Plexos testing, get the OK from client, start final document

o Summary of weekly advisor meeting –

Discussed our Plexos model with the client and had them clarify some questions we had. Demonstrated our results and got feedback on how to improve. Set out tasks for the upcoming week.